

## Chemical Safety Data Sheet MSDS / SDS

## Diethylnitrosoamine SDS

Revision Date:2024-04-25 Revision Number:1

Section 1	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8
Section 9	Section 10	Section 11	Section 12	Section 13	Section 14	Section 15	Section 16

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****Product identifier**

Product name: Diethylnitrosoamine

CAS: 55-18-5

**Relevant identified uses of the substance or mixture and uses advised against**

Relevant identified uses: For R&amp;D use only. Not for medicinal, household or other use.

Uses advised against: none

**Company Identification**

Company: Chemicalbook.in

Address: 5 vasavi Layout Basaveswara Nilayam Pragathi Nagar Hyderabad, India -500090

Telephone: +91 9550333722

**SECTION 2: Hazards identification****Classification of the substance or mixture**Acute toxicity - Category 3, Oral  
Carcinogenicity, Category 1B

## GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Danger

### Hazard statement(s)

H301 Toxic if swallowed

H350 May cause cancer

### Precautionary statement(s)

#### Prevention

P264 Wash ... thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P203 Obtain, read and follow all safety instructions before use.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...

#### Response

P301+P316 IF SWALLOWED: Get emergency medical help immediately.

P321 Specific treatment (see ... on this label).

P330 Rinse mouth.

P318 IF exposed or concerned, get medical advice.

#### Storage

P405 Store locked up.

#### Disposal

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

#### Other hazards which do not result in classification

no data available

### SECTION 3: Composition/information on ingredients

#### Substance

Chemical name:	Diethylnitrosoamine
Common names and synonyms:	Diethylnitrosoamine
CAS number:	55-18-5
EC number:	200-226-1
Concentration:	100%

### SECTION 4: First aid measures

#### Description of necessary first-aid measures

##### If inhaled

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

##### Following skin contact

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

##### Following eye contact

Rinse with pure water for at least 15 minutes. Consult a doctor.

##### Following ingestion

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

#### Most important symptoms/effects, acute and delayed

ACUTE/CHRONIC HAZARDS: When heated to decomposition this compound emits toxic fumes of nitrogen oxides. (NTP, 1992)

#### Indication of immediate medical attention and special treatment needed, if necessary

Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR if

necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on the left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. /Organic bases/Amines and related compounds/

## **SECTION 5: Firefighting measures**

### **Suitable extinguishing media**

Use dry chemical, carbon dioxide, alcohol foam, or polymer foam extinguishers.

### **Specific hazards arising from the chemical**

This chemical is combustible. (NTP, 1992)

### **Special protective actions for fire-fighters**

Wear self-contained breathing apparatus for firefighting if necessary.

## **SECTION 6: Accidental release measures**

### **Personal precautions, protective equipment and emergency procedures**

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

### **Environmental precautions**

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

### **Methods and materials for containment and cleaning up**

Spills ... absorbed by celite (r) or commercial spill absorbant. after absorbant containing major share of nitrosoamine ... picked up (avoid dusts; do not sweep), surface should be thoroughly cleaned with strong detergent soln. if major spill occurs outside of ventilated area, room should be evacuated & cleanup operation should be carried out by persons equipped with self-contained respirators. those involved in this operation should wear rubber gloves, lab coats, & plastic aprons or equivalent protective apparel.

## SECTION 7: Handling and storage

### Precautions for safe handling

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

### Conditions for safe storage, including any incompatibilities

All bottles ... should be stored & transported within an unbreakable outer container; storage should be in ventilated storage cabinet or in hood.

## SECTION 8: Exposure controls/personal protection

### Control parameters

### Occupational Exposure limit values

Component	Diethylnitrosoamine			
CAS No.	55-18-5			
	Limit value - Eight hours		Limit value - Short term	
	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Austria	?	0,0025	?	0,01
Germany (AGS)	?	0,0002 (1)	?	?
?	?	0,0005 (2)	?	?
?	?	0,001 (3)	?	?
	Remarks			
Austria	TRK value (based on technical feasibility) The TRK values applies to the sum of the classified N-Nitrosamines			
Germany (AGS)	Values applied to the sum of carcinogenic N-Nitrosamines (see TRGS 552). (1) Reference value that represents the state of the art for: Working with metal working fluids, volatile corrosion inhibitors (VCI), chemical industry (not stated below), foundries. (2) Reference value that represents the state of the art for: Chemical industry - working with amines, tyre industry - vulcanisation. (3) Reference value that represents the state of the art for: Chemical industry - manufacturing of polyacrylonitrile fibres, tyre industry - warehouses, technical rubber products, leather industries.			

### Biological limit values

no data available

### Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

### **Individual protection measures, such as personal protective equipment (PPE)**

#### **Eye/face protection**

Wear tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

#### **Skin protection**

Wear fire/flare resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

#### **Respiratory protection**

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

#### **Thermal hazards**

no data available

## **SECTION 9: Physical and chemical properties and safety characteristics**

Physical state:	N-nitrosodiethylamine is a clear slightly yellow liquid. Boiling point 175-177°C. Can reasonably be anticipated to be a carcinogen. Used as a gasoline and lubricant additive and as an antioxidant and stabilizer in plastics.
Colour:	Slightly yellow liquid
Odour:	no data available
Melting point/freezing point:	29°C(lit.)
Boiling point or initial boiling point and boiling range:	177°C(lit.)
Flammability:	no data available

Lower and upper explosion limit/flammability limit:	no data available
Flash point:	85°C(lit.)
Auto-ignition temperature:	no data available
Decomposition temperature:	no data available
pH:	no data available
Kinematic viscosity:	no data available
Solubility:	greater than or equal to 100 mg/mL at 70° F (NTP, 1992)
Partition coefficient n-octanol/water:	log Kow = 0.48
Vapour pressure:	5.7 mm Hg at 77° F ; 8.8 mm Hg at 94.1° F (NTP, 1992)
Density and/or relative density:	0.95g/mL(lit.)
Relative vapour density:	no data available
Particle characteristics:	no data available

## SECTION 10: Stability and reactivity

### Reactivity

no data available

### Chemical stability

Stable at room temp for several days in aq soln @ neutral & alkaline ph; less stable @ strongly acid ph @ room temp

**Possibility of hazardous reactions**

N-NITROSODIETHYLAMINE reacts with strong oxidizing agents. Incompatible with reducing agents. Can be hydrolyzed by hydrogen bromide in acetic acid (NTP, 1992).

**Conditions to avoid**

no data available

**Incompatible materials**

Oxidizers, reducing agents (may form hydrazine), and hydrogen bromide. Light sensitive, rapidly decomposes.

**Hazardous decomposition products**

When heated to decomposition it emits toxic fumes of /oxides of nitrogen/.

**SECTION 11: Toxicological information****Acute toxicity**

Oral: LD50 Rat oral 280 mg/kg

Inhalation: no data available

Dermal: no data available

**Skin corrosion/irritation**

no data available

**Serious eye damage/irritation**

no data available

**Respiratory or skin sensitization**

no data available

**Germ cell mutagenicity**



no data available

### **Carcinogenicity**

No data are available in humans. Sufficient evidence of carcinogenicity in animals. OVERALL EVALUATION: Group 2A: The agent is probably carcinogenic to humans.

### **Reproductive toxicity**

no data available

### **STOT-single exposure**

no data available

### **STOT-repeated exposure**

no data available

### **Aspiration hazard**

no data available

## **SECTION 12: Ecological information**

### **Toxicity**

Toxicity to fish: LC50; Species: *Pimephales promelas* (Fathead Minnow); Conditions: freshwater, static, 22.0-23.0 deg C, pH 8.07-8.25, hardness 288 mg/L CaCO<sub>3</sub>, dissolved oxygen 4.8-7.0 mg/L; Concentration: 775000 ug/L for 96 hr (95% confidence interval: 698000-860000 ug/L)

Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: EC50; Species: *Anabaena flosaquae* (Blue-Green Algae) 10000 cells; Conditions: freshwater, static, 24 deg C; Concentration: 17500 ug/L for 96 hr; Effect: growth, general

Toxicity to microorganisms: no data available

### **Persistence and degradability**

AEROBIC: The concentration of N-nitrosodiethylamine (18.0 ppm nitroso-N) in lake water was essentially unchanged after 108 days

incubation in the dark at 30 deg C. While the level of N-nitrosodiethylamine amended with raw sewage at pH 6.0 slowly decreased from approximately 17 ppm to 12 ppm over 14 days; the fact that the decrease was nearly the same in sterilized samples indicates that abiotic factors may have been responsible for the loss. At pH 7.2 the rate of loss was greater than for autoclaved sewage, however heat treatment may have altered sample properties so that nonbiological loss was diminished(1).

#### **Bioaccumulative potential**

An estimated BCF of 3 was calculated in fish for N-nitrosodiethylamine(SRC), using a log Kow of 0.48(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC).

#### **Mobility in soil**

Using a structure estimation method based on molecular connectivity indices(1), the Koc of N-nitrosodiethylamine can be estimated to be 83(SRC). The Koc of N-nitrosodiethylamine can be estimated as 14(SRC), using a log Kow of 0.48(2) and a regression-derived equation(1). According to a classification scheme(3), these estimated Koc values suggest that N-nitrosodiethylamine is expected to have very high to high mobility in soil.

#### **Other adverse effects**

no data available

### **SECTION 13: Disposal considerations**

#### **Disposal methods**

#### **Product**

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

#### **Contaminated packaging**

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

### **SECTION 14: Transport information**

**UN Number**

ADR/RID: UN2810 (For reference only, please check.)

IMDG: UN2810 (For reference only, please check.)

IATA: UN2810 (For reference only, please check.)

**UN Proper Shipping Name**

ADR/RID: TOXIC LIQUID, ORGANIC, N.O.S. (For reference only, please check.)

IMDG: TOXIC LIQUID, ORGANIC, N.O.S. (For reference only, please check.)

IATA: TOXIC LIQUID, ORGANIC, N.O.S. (For reference only, please check.)

**Transport hazard class(es)**

ADR/RID: 6.1 (For reference only, please check.)

IMDG: 6.1 (For reference only, please check.)

IATA: 6.1 (For reference only, please check.)

**Packing group, if applicable**

ADR/RID: I (For reference only, please check.)

IMDG: I (For reference only, please check.)

IATA: I (For reference only, please check.)

**Environmental hazards**

ADR/RID: No

IMDG: No

IATA: No

**Special precautions for user**

no data available

**Transport in bulk according to IMO instruments**

no data available

**SECTION 15: Regulatory information**

**Safety, health and environmental regulations specific for the product in question**

**European Inventory of Existing Commercial Chemical Substances (EINECS)**

Listed.

**EC Inventory**

Listed.

**United States Toxic Substances Control Act (TSCA) Inventory**

Listed.

**China Catalog of Hazardous chemicals 2015**

Not Listed.

**New Zealand Inventory of Chemicals (NZIoC)**

Not Listed.

**(PICCS)**

Not Listed.

**Vietnam National Chemical Inventory**

Not Listed.

**IECSC)**

Not Listed.

**Korea Existing Chemicals List (KECL)**

Not Listed.

## **SECTION 16: Other information**

**Abbreviations and acronyms**

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

### References

IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>

HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:  
[http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)

CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website:  
<http://www.phmsa.dot.gov/hazmat/library/erg>

Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. We as supplier shall not be held liable for any